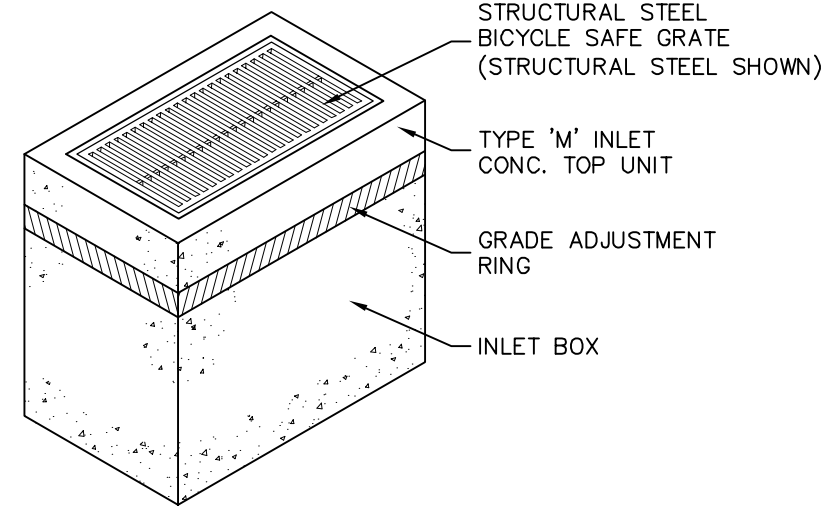
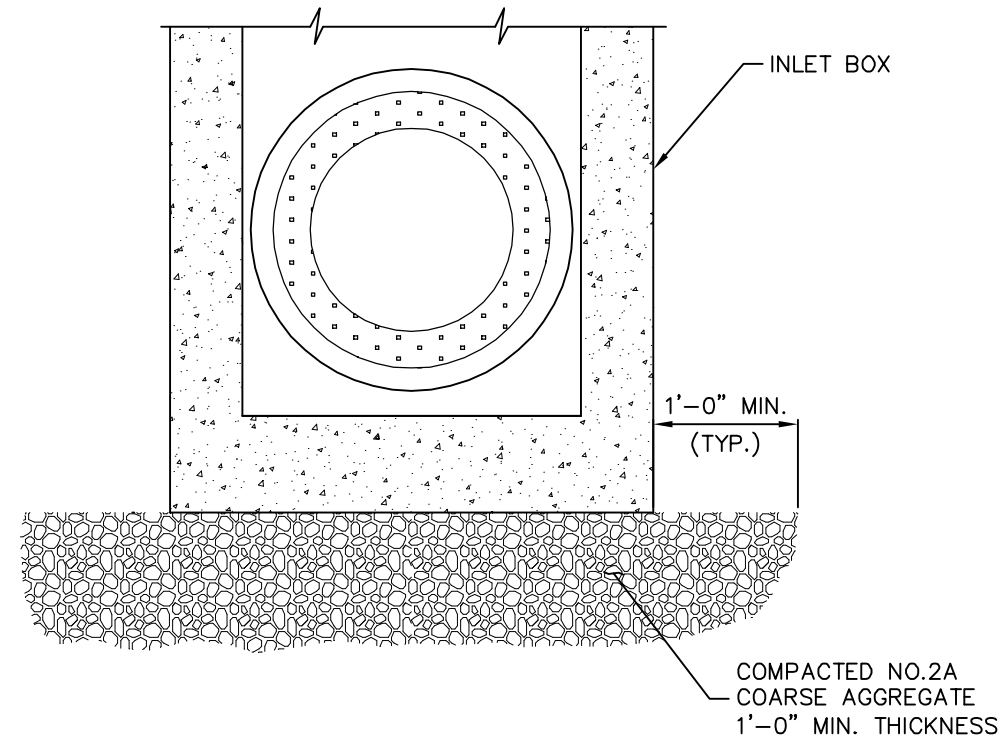


three inches = one foot  
one and one half inches = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot



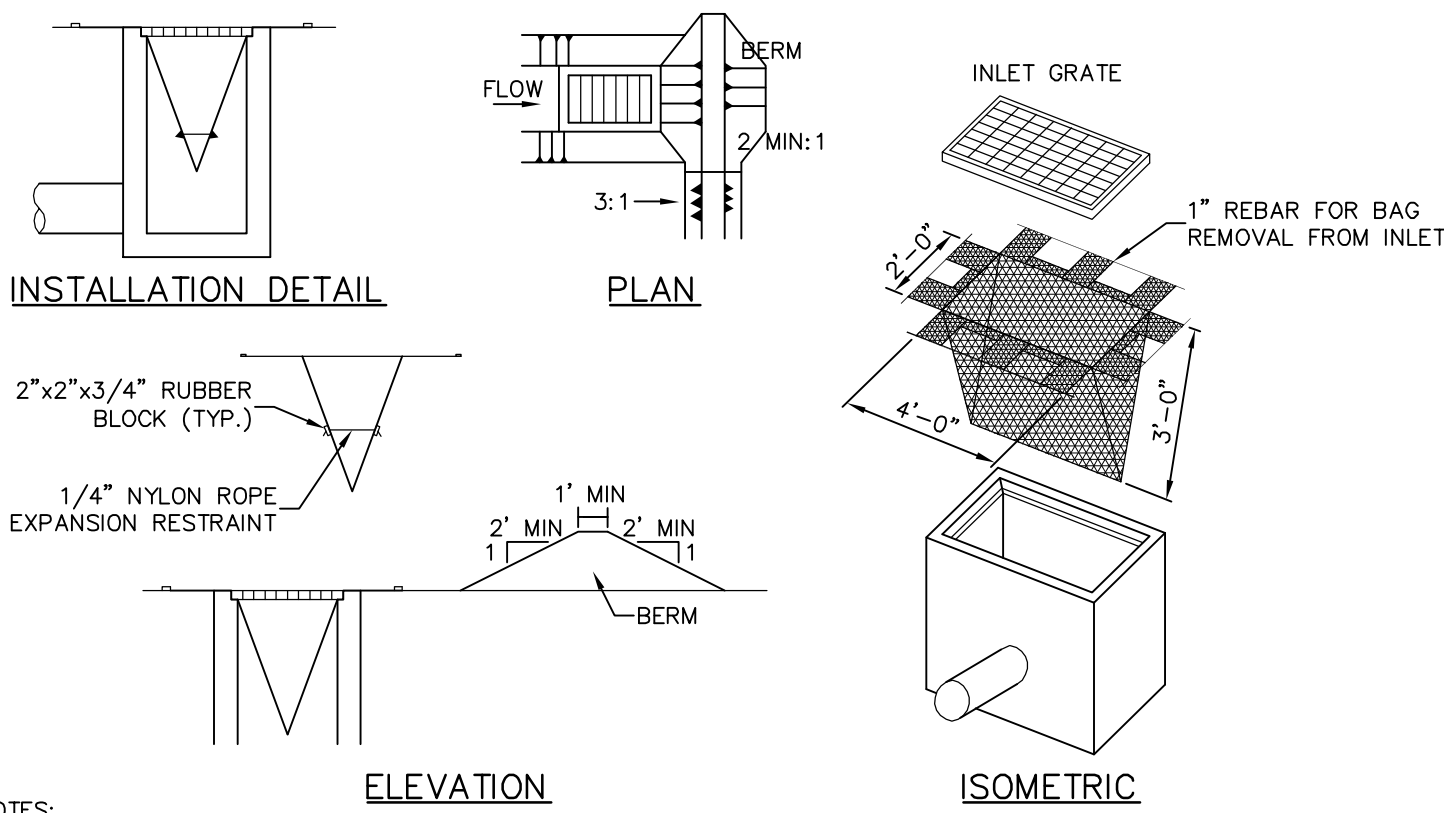
- NOTES:
1. ALL MATERIALS AND CONSTRUCTION METHODS TO MEET THE REQUIREMENTS OF PENNDOT PUBLICATION 408 AND 72M (RC-34M), LATEST REVISION.
  2. ALL STRUCTURES AND ASSEMBLIES TO BE PRE-CAST, UNLESS OTHERWISE NOTED.
  3. ALL PIPE CONNECTIONS TO BE WATERTIGHT.

**(A) TYPE 'M' INLET**  
NOT TO SCALE



- NOTES:
1. FOR ADDITIONAL NOTES SEE RC46M SHEETS 1, 2, AND 3 OF 44.
  2. STANDARD INLET BOXES SHOWN. PROVIDE TOP SLABS FOR OTHER INLET TYPES.
  3. SEE RC-45M FOR DETAILS FOR THE CONCRETE TOP UNITS, FRAMES, AND GRATES.
  4. PROVIDE GRADE ADJUSTMENT RINGS WHEN REQUIRED. SEE RC-45M FOR DETAILS.
  5. CONSTRUCT OR PLACE INLET BOXES UNLESS OTHERWISE INDICATED OR DIRECTED.
  6. CONSTRUCT OR PLACE INLET BOXES ON A SUBBASE CONSTRUCTED OF COMPACTED NO. 2A COARSE AGGREGATE. PLACE AND COMPACT IN 4" LAYERS TO PROVIDE A 1'-0" MINIMUM DEPTH.

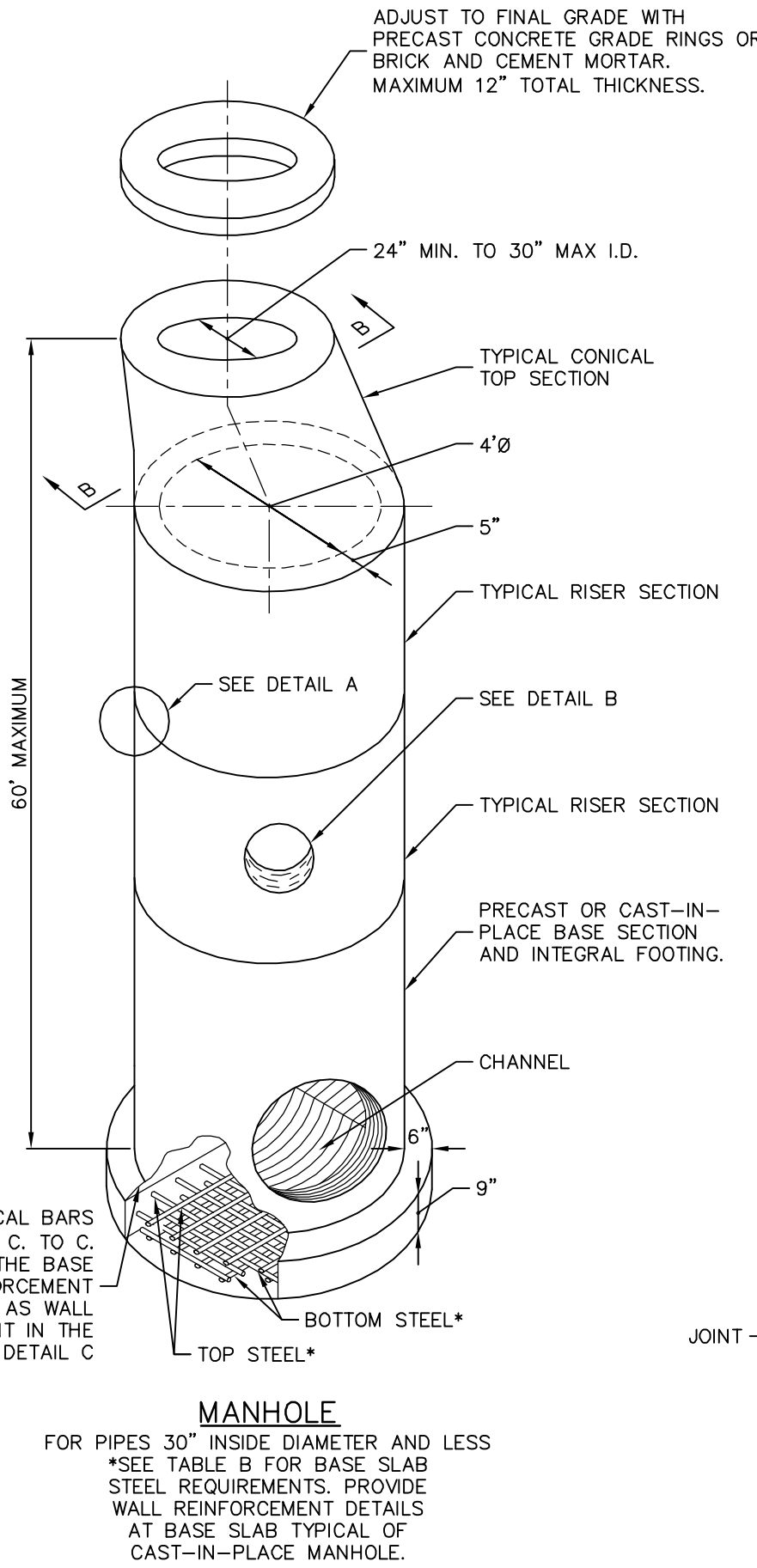
**(B) INLET BOX -- SUBBASE PREPARATION**  
NOT TO SCALE



- NOTES:
1. MAXIMUM DRAINAGE AREA = 1/2 ACRE.
  2. SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT IF INLETS UTILIZING INLET PROTECTION ARE NOT DRAINING TO A SEDIMENT TRAP OR BASIN.
  3. INLET PROTECTION IS NOT REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS REQUIRED FOR ALL INSTALLATIONS.
  4. EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY.
  5. THIS IS A TEMPORARY BEST MANAGEMENT PRACTICE TO BE REMOVED BY CONTRACTOR FOLLOWING A MINIMUM OF 70% STABILIZATION OF CONTRIBUTING DRAINAGE AREA.

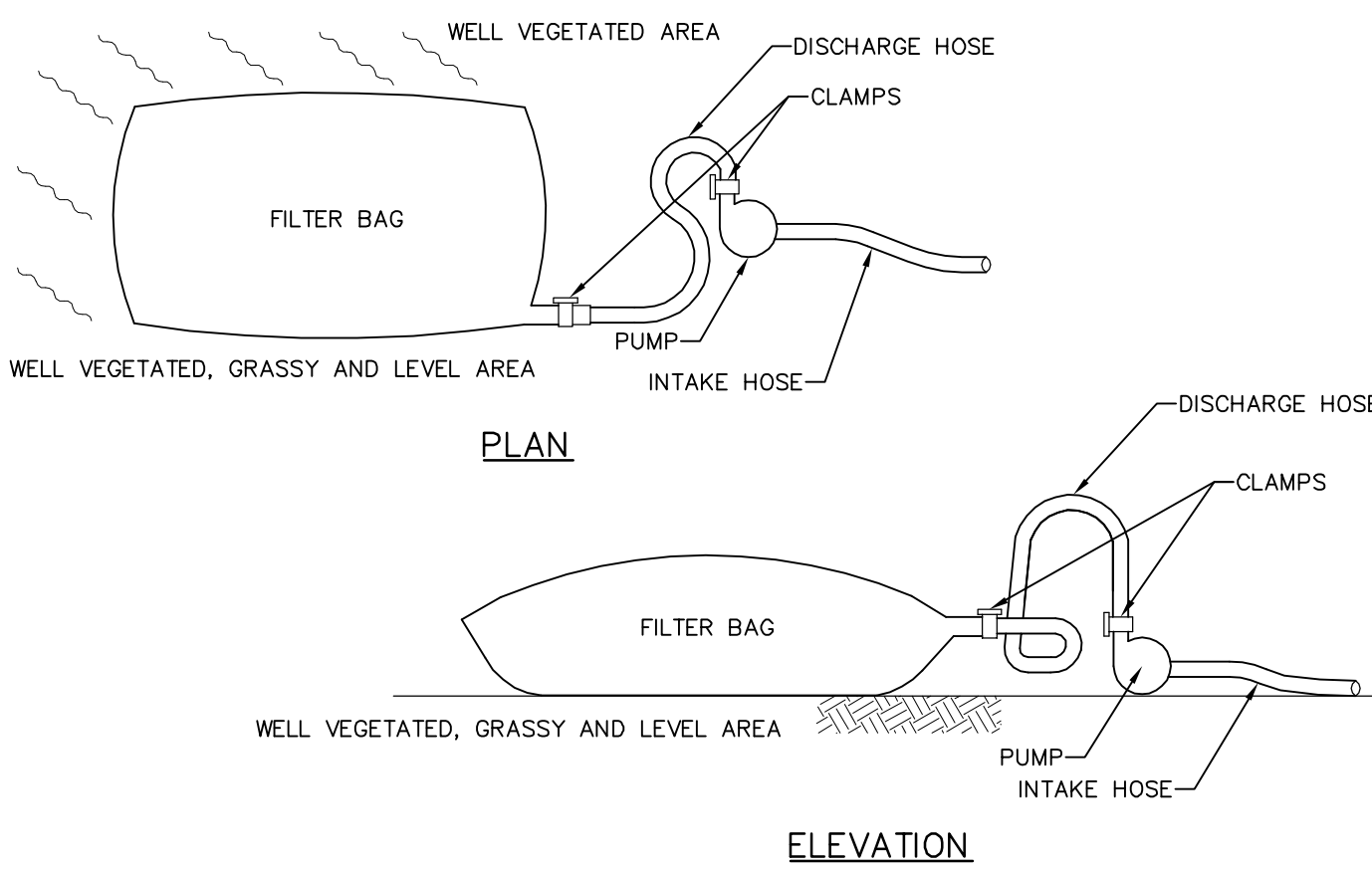
DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

**(H) FILTER BAG INLET PROTECTION FOR CHANNEL OR ROADSIDE SWALE**  
NOT TO SCALE



- NOTES:
1. PRECAST MANHOLES MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 714, MAY BE SUBSTITUTED FOR THE STANDARD CAST-IN-PLACE MANHOLE. FOR DEVIATION OR MODIFICATION OF THE STANDARDS, SUBMIT SHOP DRAWINGS FOR APPROVAL.
  2. FOR RISERS OR BASE SECTIONS WITH OPENINGS, PROVIDE A MINIMUM HEIGHT OF SECTION SO AS TO PROVIDE AN UNGUOT WALL EQUAL TO 20% OF THE OPENING, BUT NO LESS THAN 8", BETWEEN THE OPENING AND THE CLOSEST JOINT BETWEEN RISERS -- SEE DETAIL B.
  3. FOR PRECAST RISER OR BASE SECTIONS WITH ONE OPENING LOCATED AT DEPTHS TO 60', PROVIDE CIRCUMFERENTIAL REINFORCEMENT IN ACCORDANCE WITH SECTION B-B. FOR SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT DEPTH OF 10' AND LESS, PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.16 IN<sup>2</sup>/VERTICAL FT. FOR THE HEIGHT OF RISER OR BASE SECTION.
  4. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT A DEPTH GREATER THAN 10', BUT LESS THAN OR EQUAL TO 25', PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.44 IN<sup>2</sup>/VERTICAL FT. FOR THE HEIGHT OF THE RISER OR BASE SECTION.
  5. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT DEPTHS GREATER THAN 25', USE A 10" THICK WALL RISER OR BASE SECTION WITH CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.22 IN<sup>2</sup>/VERTICAL FT. EACH FACE.
  6. MARK RISERS OR BASE SECTIONS WITH HOLES CLEARLY WITH MAXIMUM ALLOWABLE DEPTH.
  7. PROVIDE ADDITIONAL REINFORCEMENT BARS AROUND OPENINGS AS SHOWN ON REINFORCEMENT DETAILS AT OPENINGS.
  8. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 605-2(2). ALTERNATE CONFIGURATIONS AND DIMENSIONS, AS APPROVED BY THE ENGINEER, MAY BE USED.
  9. PROVIDE MINIMUM 1" SECTION DIMENSION FOR METAL STEPS. PROVIDE MINIMUM 3/4" SECTION DIMENSION FOR NON-DETERIORATING MATERIAL STEPS.
  10. MECHANICAL ANCHOR REQUIRED FOR INSTALLATION OF STEPS WITHOUT HOLES.
  11. THE ALTERNATE OPENING REINFORCEMENT DETAIL IS NOT DESIRABLE BY DESIGN. USE IT TO MEET EXISTING PIPE ELEVATIONS.
  12. ALL PIPE CONNECTIONS TO BE WATERTIGHT.

**(C) MANHOLE -- PRECAST**  
NOT TO SCALE



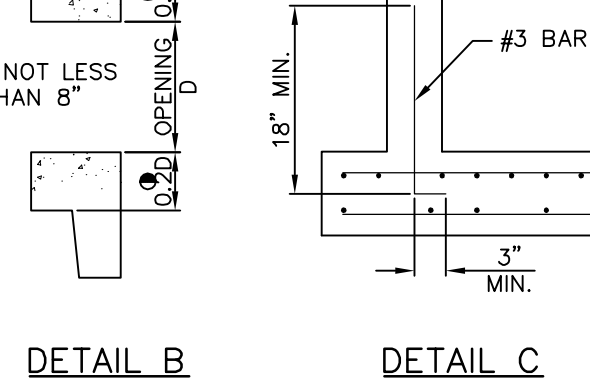
- NOTES:
1. FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
  2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
  3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE HOSING SHALL BE PROVIDED. EROSION RESISTANT AREAS, WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
  4. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
  5. THE PUMPING RATE SHALL BE NO GREATER THAN 750 G.P.M. OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKE SHOULD BE FLOATING AND SCREENED.
  6. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.
  7. SHOULD ADEQUATE VEGETATION NOT EXIST, BAG SHALL BE PLACED ON A BED OF 6" OF AASHTO #57 STONE, OR AS DIRECTED BY THE COUNTY CONSERVATION DISTRICT.

**(I) PUMPED WATER FILTER BAG**  
NOT TO SCALE

PRECAST MANHOLE HEIGHT	TABLE B	
	TOP STEEL REQUIREMENTS	BOTTOM STEEL REQUIREMENTS
0'-0" TO 3'-0"	NO. 4 BARS AT 6" C. TO C. OR 0.33 IN <sup>2</sup> /FT WWF 6" MAXIMUM SPACING	NO. 4 BARS AT 12" C. TO C. OR 0.16 IN <sup>2</sup> /FT WWF 6" MAXIMUM SPACING
> 3'-0" TO 6'-0"	NO. 5 BARS AT 6" C. TO C. OR 0.56 IN <sup>2</sup> /FT WWF 6" MAXIMUM SPACING	

WALL REINFORCEMENT CIRCUMFERENTIAL FULL DEPTH 0.12in<sup>2</sup>/VERTICAL FT VERTICAL FULL DEPTH 0.12in<sup>2</sup>/HORIZONTAL FT PLACE REINFORCEMENT MESH CENTRALLY IN WALL SEE NOTES 5 AND 6 FOR STEEL REQUIREMENTS AT OPENINGS.

**SECTION B-B**



**DETAIL A**

**DETAIL B**

**DETAIL C**

**ALTERNATE OPENING REINFORCEMENT**  
SEE NOTE 11

**SECTION A-A**

**PLAN**

**ELEVATION**

**ISOMETRIC**

**NOTES:**

**1. ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE.**

**2. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.**

**3. GEOTEXTILE FABRIC, AS SPECIFIED IN PENNDOT PUBLICATION 408, SECTION 735, TABLE A, CLASS 4, TYPE B.**

**4. ANY SECTION OF FILTER FABRIC FENCE, WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET. SEE STANDARD CONSTRUCTION DETAIL #18.**

**5. GEOTEXTILE FABRIC, AS SPECIFIED IN PENNDOT PUBLICATION 408, SECTION 735, TABLE A, CLASS 3, TYPE A.**

**6. STAKES SPACED @ 8' MAXIMUM. USE 2" X 2" WOOD OR EQUIVALENT STEEL STAKES.**

**7. FILTER FABRIC FENCE MUST BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.**

**8. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.**

**9. ANY SECTION OF FILTER FABRIC FENCE, WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET. SEE STANDARD CONSTRUCTION DETAIL #18.**

**10. GEOTEXTILE FABRIC, AS SPECIFIED IN PENNDOT PUBLICATION 408, SECTION 735, TABLE A, CLASS 3, TYPE A.**

**11. THE ALTERNATE OPENING REINFORCEMENT DETAIL IS NOT DESIRABLE BY DESIGN. USE IT TO MEET EXISTING PIPE ELEVATIONS.**

**12. ALL PIPE CONNECTIONS TO BE WATERTIGHT.**

**13. PROVIDE ADDITIONAL REINFORCEMENT BARS AROUND OPENINGS AS SHOWN ON REINFORCEMENT DETAILS AT OPENINGS.**

**14. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 605-2(2). ALTERNATE CONFIGURATIONS AND DIMENSIONS, AS APPROVED BY THE ENGINEER, MAY BE USED.**

**15. PROVIDE MINIMUM 1" SECTION DIMENSION FOR METAL STEPS. PROVIDE MINIMUM 3/4" SECTION DIMENSION FOR NON-DETERIORATING MATERIAL STEPS.**

**16. MECHANICAL ANCHOR REQUIRED FOR INSTALLATION OF STEPS WITHOUT HOLES.**

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**18. ALL PIPE CONNECTIONS TO BE WATERTIGHT.**

**19. PRECAST MANHOLES MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 714, MAY BE SUBSTITUTED FOR THE STANDARD CAST-IN-PLACE MANHOLE. FOR DEVIATION OR MODIFICATION OF THE STANDARDS, SUBMIT SHOP DRAWINGS FOR APPROVAL.**

**20. FOR RISERS OR BASE SECTIONS WITH OPENINGS, PROVIDE A MINIMUM HEIGHT OF SECTION SO AS TO PROVIDE AN UNGUOT WALL EQUAL TO 20% OF THE OPENING, BUT NO LESS THAN 8", BETWEEN THE OPENING AND THE CLOSEST JOINT BETWEEN RISERS -- SEE DETAIL B.**

**21. FOR PRECAST RISER OR BASE SECTIONS WITH ONE OPENING LOCATED AT DEPTHS TO 60', PROVIDE CIRCUMFERENTIAL REINFORCEMENT IN ACCORDANCE WITH SECTION B-B. FOR SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT DEPTH OF 10' AND LESS, PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.16 IN<sup>2</sup>/VERTICAL FT. FOR THE HEIGHT OF RISER OR BASE SECTION.**

**22. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT A DEPTH GREATER THAN 10', BUT LESS THAN OR EQUAL TO 25', PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.44 IN<sup>2</sup>/VERTICAL FT. FOR THE HEIGHT OF THE RISER OR BASE SECTION.**

**23. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT DEPTHS GREATER THAN 25', USE A 10" THICK WALL RISER OR BASE SECTION WITH CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.22 IN<sup>2</sup>/VERTICAL FT. EACH FACE.**

**24. MARK RISERS OR BASE SECTIONS WITH HOLES CLEARLY WITH MAXIMUM ALLOWABLE DEPTH.**

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**91. PRECAST MANHOLES MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 714, MAY BE SUBSTITUTED FOR THE STANDARD CAST-IN-PLACE MANHOLE. FOR DEVIATION OR MODIFICATION OF THE STANDARDS, SUBMIT SHOP DRAWINGS FOR APPROVAL.**

**92. FOR RISERS OR BASE SECTIONS WITH OPENINGS, PROVIDE A MINIMUM HEIGHT OF SECTION SO AS TO PROVIDE AN UNGUOT WALL EQUAL TO 20% OF THE OPENING, BUT NO LESS THAN 8", BETWEEN THE OPENING AND THE CLOSEST JOINT BETWEEN RISERS -- SEE DETAIL B.**

**93. FOR PRECAST RISER OR BASE SECTIONS WITH ONE OPENING LOCATED AT DEPTHS TO 60', PROVIDE CIRCUMFERENTIAL REINFORCEMENT IN ACCORDANCE WITH SECTION B-B. FOR SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT DEPTH OF 10' AND LESS, PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.16 IN<sup>2</sup>/VERTICAL FT. FOR THE HEIGHT OF RISER OR BASE SECTION.**

**94. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT A DEPTH GREATER THAN 10', BUT LESS THAN OR EQUAL TO 25', PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.44 IN<sup>2</sup>/VERTICAL FT. FOR THE HEIGHT OF THE RISER OR BASE SECTION.**

**95. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT DEPTHS GREATER THAN 25', USE A 10" THICK WALL RISER OR BASE SECTION WITH CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.22 IN<sup>2</sup>/VERTICAL FT. EACH FACE.**

**96. MARK RISERS OR BASE SECTIONS WITH HOLES CLEARLY WITH MAXIMUM ALLOWABLE DEPTH.**

**97. PROVIDE ADDITIONAL REINFORCEMENT BARS AROUND OPENINGS AS SHOWN ON REINFORCEMENT DETAILS AT OPENINGS.**

**98. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 605-2(2). ALTERNATE CONFIGURATIONS AND DIMENSIONS, AS APPROVED BY THE ENGINEER, MAY BE USED.**

**99. PROVIDE MINIMUM 1" SECTION DIMENSION FOR METAL STEPS. PROVIDE MINIMUM 3/4" SECTION DIMENSION FOR NON-DETERIORATING MATERIAL STEPS.**

**100. MECHANICAL ANCHOR REQUIRED FOR INSTALLATION OF STEPS WITHOUT HOLES.**

**101. THE ALTERNATE OPENING REINFORCEMENT DETAIL IS NOT DESIRABLE BY DESIGN. USE IT TO MEET EXISTING PIPE ELEVATIONS.**

**102. ALL PIPE CONNECTIONS TO BE WATERTIGHT.**